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# URBAN GROWTH IN CANADA



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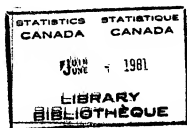
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1981 Census of Canada

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1. The first part of the paper is devoted to a discussion of the various methods of determining the rate of reaction.

2. The second part of the paper is devoted to a discussion of the various methods of determining the order of reaction.

3. The third part of the paper is devoted to a discussion of the various methods of determining the activation energy of a reaction.

# INTRODUCTION

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The steam engine and its applications in industry and transportation, and all the technical innovations of the late nineteenth and the beginning of the twentieth centuries, have speeded up the process of urban concentration and the development of cities. The latter became larger during the industrial revolution but remained highly concentrated, with a clear differentiation between business districts, working class areas and bourgeois districts. Subsequent progress in urban and suburban transportation led to urban sprawl as residential construction spread outward from the core. Industrial decentralization, however, is a slower process than residential decentralization; many Canadians still have to travel some distance to their place of work.

Since the beginning of the last decade, the population of the old urban cores and the central districts has levelled off or even declined, while that of the peripheral areas has increased considerably. The city, which previously attracted the rural population, is now losing its own population to the rural areas.

Can Canada's financial resources support further population dispersion? The depopulation of central urban areas has created a situation in which the facilities financed by all citizens are underused while the population newly settled in suburban or nearby rural areas requires facilities and services that are unavailable. This new trend in population distribution will undoubtedly lead to a change in socio-economic values; land development and environmental protection policies will have to be carefully reviewed, for this emerging ruralization will only increase

the demand for arable land, a resource in limited supply.

The improvement in communications has made technical advances and the benefits of new technology available to almost all Canadians. Toronto, Montréal and Vancouver gradually began to set the pace for the other Canadian cities. This has been relatively easy where commodities such as manufactured goods are concerned; some services, however, require a minimum population concentration to be economically feasible.

This report will briefly examine the urbanization process that has taken place in Canada since the end of the past century. The evolution of Canada's urbanization rate will be compared with that of the corresponding rates of selected other countries. The study will examine both provincial and national data and focus on major urban population concentrations and census metropolitan areas.



# ***FASTER RURAL GROWTH AFTER 100 YEARS OF URBANIZATION***

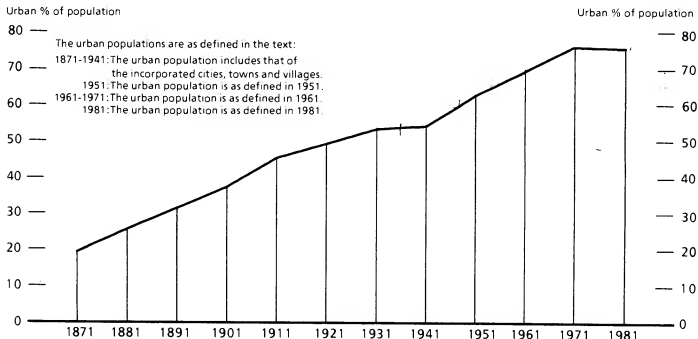
In the past decade, the distribution of Canada's population has been marked by a new trend: a decline in the proportion of the population classified as urban. This reversed the urbanization process of the previous 100 years, during which the urban population rose from 19.6% in 1871 to 76.1% in 1971 and 75.7% in 1981. In the 1931 Census, for the first time, more than 50% of the total population was classified as urban.

Chart 1 shows the evolution of Canada's urban population since 1871. Urban growth first levelled off during the

period 1931-1941 due to the major economic crisis of the 1930s. Since no jobs were available in the cities, the influx of rural population slowed considerably. A second plateau was reached in the past decade. This stagnation in the urbanization rate stems from various causes, including the attraction of the rural environment (synonymous with nature and tranquility), lower municipal taxes, and the greater availability of property in rural areas.

Chart 1

**Estimated Percentage of Canada's Population Which Was Urban, 1871 to 1981**



Source: 1971 and 1981 Censuses of Canada

The changes in the distribution of Canada's population can be attributed in part to administrative changes and new concepts. These concepts were nevertheless intended to reflect the realities of the day. Between 1871 and 1941, the population of incorporated cities, towns and villages was classified as urban regardless of the size of these entities. In 1951, while the population of incorporated cities, towns and villages was classed as urban only if their population was 1,000 or more, unincorporated places of 1,000 persons or more were also included. In addition, due to rapid growth in the suburbs, the population of urban fringes of census metropolitan areas was also considered urban. In 1961 and 1971, incorporated cities, towns and villages of 1,000 persons or more were considered urban, as were population concentrations of 1,000 or more with a minimum density of 1,000 persons per square mile. After 1971, the legal status of the municipality was no longer considered. Any population concentration of 1,000 or more with a minimum density of 400 persons per square kilometre (386 in the 1976 Census) was now considered urban.



# A WORLD-WIDE PHENOMENON

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This counter-urbanization movement is not confined to Canada. Studies conducted by the U.S. Bureau of the Census in the early 1970s suggest that the United States had already entered a new period in its history; people had begun to move from the city to the country to fulfill basic needs that the city did not satisfy. A similar movement is developing in Germany, in the United Kingdom and, to a lesser extent, in France. The exodus of population from the centre of numerous agglomerations, both large and small, is a reality. For many, the city has become synonymous with insecurity.

A study of the evolution of the urbanization rate in countries where urban population is defined indicates, however, that this trend is not world-wide.

Table 1 shows, for countries with urban population definitions, the numbers with increasing and decreasing urbanization rates in each continent. Based on the urban area definitions of each country, Canada is the sixteenth most urbanized country in the world.

Table 1

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## Changes in the Rates of Urbanization of Countries by Continent, 1971-1980

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Continent	Number of countries with increasing urbanization	Number of countries with decreasing urbanization
Africa	10	2
North America	9	2
South America	6	0
Asia	8	2
Europe	11	6
Oceania	7	1

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Source: Demographic Yearbook, 1981, 33rd Issue, United Nations, New York, 1983, pp. 189-206.

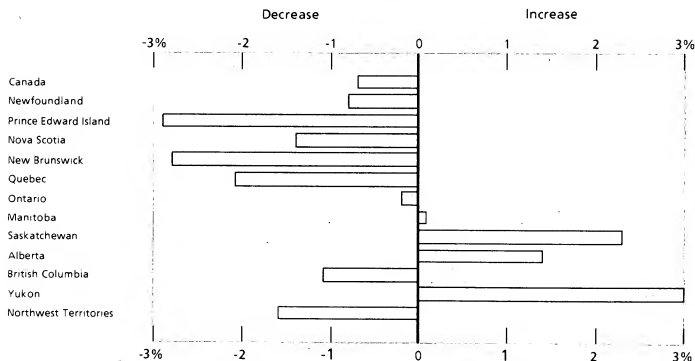
Counter-urbanization is confined primarily to European countries (such as the Netherlands, Norway, and the United Kingdom) to the U.S.A and to Canada. But it also is taking place in some underdeveloped or developing countries such as Malawi, Mauritius, Iraq and Syria, and therefore cannot be labelled a simple outgrowth of the population distribution process in highly developed countries.

# PROVINCIAL VARIATIONS

Not all provinces or territories are experiencing the same rate of urbanization slow-down or decline. The urbanization rate is rising in the Prairies and the Yukon but falling in all other provinces. The variation in the provincial rates between 1976 and 1981 is illustrated in Chart 2, and the 1981 rates in Chart 3.

Chart 2

Change in the Urbanization Rates of Canada, the Provinces and the Territories Between 1976 and 1981



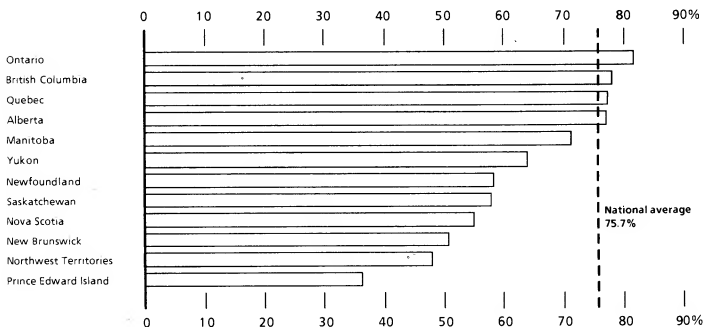
Source : 1981 Census of Canada

Apart from Ontario, whose urbanization rate fell only 0.2%, all provinces whose rate was lower in 1981 than in 1976 (based on 1981 boundaries) experienced stronger decreases in urbanization than Canada as a whole.

An examination of provincial urbanization rates shows they are falling in both the highly urbanized and the comparatively less urbanized provinces. Those provinces with a rising urbanization rate rank in the middle third with respect to this rate. The Atlantic and Central provinces are losing urban population to the Prairies, which in the late 1970s exerted a strong pull on labour from other provinces. British Columbia, notwithstanding its favourable climate and picturesque landscape, is experiencing urban population decline. This may be due in part to the very high cost of housing in some of its larger cities such as Vancouver and Victoria.

Chart 3

#### Urbanization Rates of Canada, the Provinces and the Territories, 1981



The return to the land, which became apparent at the beginning of the last decade, appears to be continuing (see Table 2). The rural population, unlike the urban, is changing at a faster rate (8.9%) than the total population. Only Saskatchewan and the Yukon show a decline in rural population, while Quebec (13.9%), Alberta (14.8%) and British Columbia (17.4%) show a marked increase.

Table 2

**Percentage Change in Rural Population, Canada, Provinces and Territories, 1976-1981**

Province/territory	Percentage change in rural population, 1976-1981
Canada	8.9
Newfoundland	3.8
Prince Edward Island	8.5
Nova Scotia	5.6
New Brunswick	9.0
Quebec	13.9
Ontario	5.7
Manitoba	0.1
Saskatchewan	-0.4
Alberta	14.8
British Columbia	17.4
Yukon	-2.2
Northwest Territories	10.8

Source: 1981 Census of Canada.



# MOVEMENT TO RURAL AREAS

Population growth in an area is the result of natural increase (the excess of births over deaths in the area), of net internal movement (the excess of movers from other areas in Canada to the area, over the movers to other areas in Canada from the area), and net external migration (the excess of immigrants from outside Canada to the area over emigrants to other countries from the area). Table 3 shows the movements from urban to rural areas and from rural to urban areas and the resulting net internal movement. The contribution of this net internal movement to rural growth is also shown. More persons are moving to the country from the city than the reverse and this has been responsible

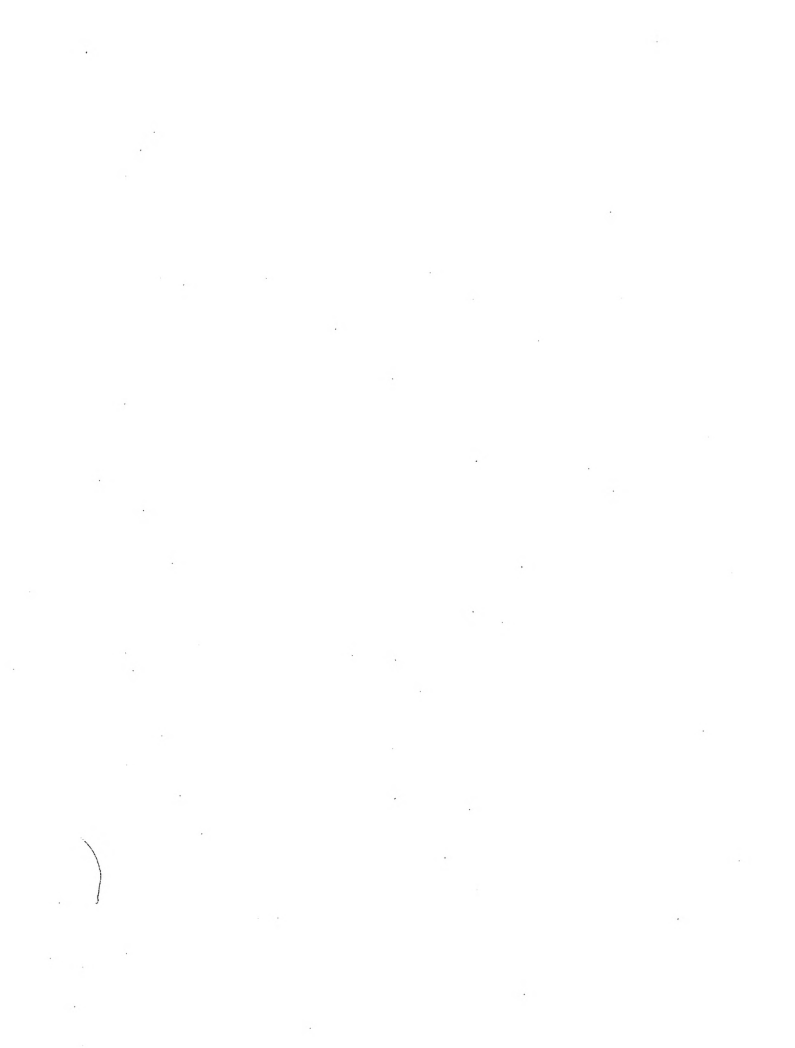
for a large portion of rural growth, in fact for slightly more than half. The contribution of the net internal movement to rural growth was very strong (over 70%) in Ontario, British Columbia, Prince Edward Island, Nova Scotia and Newfoundland. Quebec shows a somewhat different picture with only 39% of rural growth stemming from internal movement. The Prairie provinces show the traditional net flow in the opposite direction, into urban areas rather than to rural ones. This helps explain the decrease in rural population in Saskatchewan and the rising rates of urbanization in Manitoba and Alberta.

Table 3

**Population 5 Years and Over Showing Urban to Rural and Rural to Urban Movements and Net Internal Movement - Number and Percentage of Rural Growth, Canada, Provinces and Territories, 1981**

Province/territory	Urban to rural	Rural to urban	Net internal movement to rural areas	
			Number	Percentage of rural growth
Canada	999,430	753,715	245,715	51.1
Newfoundland	22,745	16,645	6,100	71.2
Prince Edward Island	7,495	2,960	4,535	74.2
Nova Scotia	42,830	28,080	14,750	73.1
New Brunswick	36,800	21,255	15,545	54.7
Quebec	240,440	172,300	68,140	38.6
Ontario	305,155	232,405	72,750	85.7
Manitoba	31,915	33,365	- 1,450	...
Saskatchewan	38,980	42,165	- 3,185	...
Alberta	94,715	96,890	- 2,175	...
British Columbia	174,375	104,290	70,085	78.1
Yukon	1,875	1,290	585	...
Northwest Territories	2,110	2,065	45	1.9

... figures not appropriate or not applicable.  
Source: 1981 Census of Canada





# "EXURBIA" OR FARM?

The increase in Canada's rural population does not imply a return to the farming way of life. Because of changes in definition, the data on rural farm population from the 1981 Census are not directly comparable with those of the 1976 Census. The comparison shows a 15% drop in the rural farm population but some of this is probably due to the exclusion, in 1981, of part of the population considered as rural farm in 1976. However, the general trend is almost certainly to a decrease, as the number of farms decreased between 1976 and 1981.

Other evidence that suggests that rural growth is not a return to farming is

found when the populations of census agglomerations (CAs) and census metropolitan areas (CMAs) are examined to determine the rural growth within these areas. Since CAs and CMAs are defined as the main labour market area (as determined by place of work data from the 1971 Census) of an urbanized core of 10,000 population or more, some rural areas are included in the fringe portion of CMAs or CAs. As seen in Table 4, almost half the rural growth between 1976 and 1981 occurred in these rural fringe areas.

The contribution of these rural fringe areas to rural growth varied considerably by province. In the case of Manitoba,

Table 4

Rural Fringe Population Growth as a Percentage of Total Rural Population Growth, Canada, Provinces and Territories, 1976-1981

Province/territory	Rural growth		Percentage of rural growth in rural fringe areas of CMAs/CAs
	Total	Within rural fringe areas of CMAs/CAs	
Canada	480,846	216,825	45
Newfoundland	8,562	4,825	56
Prince Edward Island	6,108	4,907	80
Nova Scotia	20,184	8,896	44
New Brunswick	28,412	13,537	48
Quebec	176,435	82,396	47
Ontario	84,919	50,173	59
Manitoba	329	3,124	950
Saskatchewan	- 1,549	527	...
Alberta	65,628	12,740	19
British Columbia	89,694	35,700	40
Yukon	- 186	...	...
Northwest Territories	2,310	...	...

... figures not appropriate or not applicable.

Source: 1981 Census of Canada, Catalogue Nos. 93-901 to 93-912.

rural fringe growth greatly exceeded total rural growth; in Saskatchewan, while there was a decline in the total rural population, the rural fringes of urbanized centres showed an increase. Only in Alberta was the rural fringe growth less than 40% of total rural growth. People are seeking out rural environments that are nonetheless close to a city.

The growth in rural fringe areas of CMAs and CAs takes on even more significance when the size of the population in these areas is compared to the total rural population. Only 24% of the rural population was in the rural fringe of CMAs/CAs in 1976. Thus, the growth rate for this portion of the rural population greatly exceeded that for the rural population as a whole. In fact, for the rural population outside the rural fringe areas, the growth was only marginally more than for the population as a whole. What some have termed as "exurbia" has shown very fast growth in the 1976-1981 period.

# MEDIUM-SIZED CITIES GROWING FASTER

Another aspect of urbanization is the proportions of the population which are found in large urban areas as compared with medium-sized or smaller ones and how these proportions have changed between 1976 and 1981.

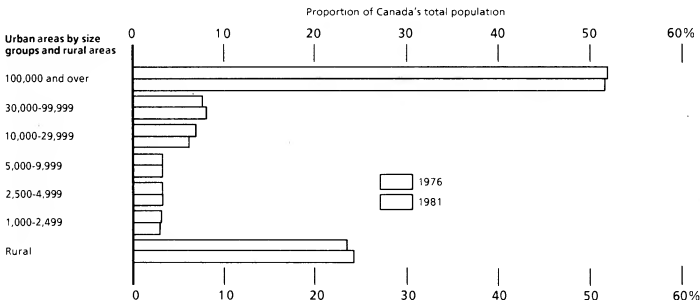
Concentrations of 100,000 inhabitants or more accounted for 51.9% of the total population in 1976, as compared to 51.7% in 1981 - a 0.2% drop.

Concentrations of 30,000 to 99,999 inhabitants increased to 8.2% of the total population in 1981, 0.4% more

than in 1976. Several other concentrations lost in importance: those of 10,000 to 29,999 lost 0.7%, and actually decreased in population, and those of 1,000 to 2,499, 0.2%. Thus the growing population is favouring the medium-sized urban areas over the very large and small ones.

Chart 4

Urban Concentrations and Rural Population as a Proportion of Total Population, Canada, 1976 and 1981



Source : 1981 Census of Canada bulletins and 1976 unpublished data.



# *METROPOLITAN POPULATION AT A STANDSTILL*

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Concentrations of 100,000 or more are the cores about which census metropolitan areas (CMAs) are delineated. A CMA is defined as the main labour market area of an urbanized core (or continuous built-up area) whose central city has a population of 100,000 or more.

The CMAs experiencing the fastest rate of population growth between 1976 and 1981 were Calgary (25.7%), Edmonton (18.1%), and Saskatoon (15.3%). Oshawa is the only other CMA whose population grew by more than 10%.

In 1976, the population of the Montréal CMA, until then Canada's largest, was equalled by that of the Toronto CMA; the latter now exceeds it by 170,000 persons. Between 1971 and 1981, the metropolitan population of Montréal increased 0.9% (to a level of 2,828,349), that of Toronto 7%, and that of Vancouver 8.7%. The Sudbury and Windsor CMAs were the only ones to lose population over this intercensal period (declines of 4.5% and 0.5% respectively).

A comparison of the growth of Canada's CMA population with that of its total population indicates that the metropolitan proportion of the total population was almost identical in 1971 and 1981. In the 1971 Census, 22 CMAs comprised 55.1% of Canada's population; in that of 1981, 24 CMAs accounted for 56.1% of this total. The fact that the metropolitan share of the total population changed little despite the addition of two CMAs (Oshawa and Trois-Rivières) appears to indicate that the population growth rate is less rapid in the CMAs than in the country as a whole. Between 1976 and 1981, the metropolitan population grew 5.8%, the non-metropolitan 6%.

Population growth is unevenly distributed between the parts of the census metropolitan areas, namely the urbanized core and the fringe, which itself is divided into an urban fringe and a rural fringe.

The population is growing more rapidly in the urban and rural fringes of CMAs than in the urbanized cores. Between 1976 and 1981, the population of the urban fringe increased 22.9%, that of the rural fringe 22%, and that of the urbanized core, 4.6%. Even though the population residing in the fringe is increasing almost five times more rapidly than that living in the urbanized core, the relative importance of the urban and rural fringes is changing very little. As Table 5 indicates, the population of the urban fringe represented only 2.5% of the total CMA population in 1981, compared to 2.2% in 1976. The rural fringe showed more change as it rose to 5.4% of the total from 4.6%.

Table 5

**Percentage Distribution by Urbanized Core and Fringe of the Total Census Metropolitan Area Population, Canada, 1976 to 1981**

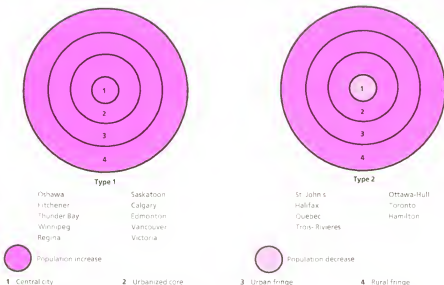
	Percentage of total CMA population	
	1976(1)	1981
Urbanized core	93.2 %	92.1 %
Fringe	6.8 %	7.9 %
Urban	2.2 %	2.5 %
Rural	4.6 %	5.4 %

(1) 1976 population calculated on the basis of 1981 boundaries

Source: 1981 Census of Canada

Chart 5

**Population Growth of Census Metropolitan Area Parts, 1976-1981**



Source: 1981 Census of Canada bulletins and unpublished data

The population trend in each part of the CMAs can be used to formulate a developmental model for these large geographic entities, permitting a clearer definition of the process of population concentration and dispersal.

In the most common type of developmental pattern for CMAs, the total population of the CMA and all its parts increases. This scenario is characteristic of all metropolitan areas in the Prairie provinces and in British Columbia, as well as for Oshawa, Kitchener and Thunder Bay in Ontario. In the second pattern, there is an increase in the total population of the CMA and all its parts except the central city.

In Montréal and Saint John the urbanized core as well as the central city is declining in population. In London, St. Catharines-Niagara and Chicoutimi-Jonquière, the total population of the CMA and that of the central city is increasing while that of the other parts may rise and/or fall. Only in the Windsor and Sudbury CMAs is the total population declining.

The median age of the total population of CMAs cannot be cited as a factor in their developmental similarities. In the 1981 Census, St. John's has the lowest median age of any CMA (26.7), followed by Edmonton, Calgary, Saskatoon and Chicoutimi-Jonquière. Victoria (34.6) and Vancouver (32.3) are the CMAs with the oldest populations. The rankings remained relatively unchanged between 1976 and 1981: in the former year, St. John's had the lowest median age, Vancouver and Victoria the highest. Only in the Sudbury area did the median age increase significantly between 1976 and 1981 (from 25.0 to 28.2), thereby falling from the second-youngest in 1976 to the seventh-youngest in 1981. For most CMAs (excluding London, Oshawa and St. Catharines-Niagara), median age is higher in the urbanized core than in the fringe.

The St. John's CMA has the largest average number of persons per family (3.6) and the largest average number of children per family (1.7). These two variables explain why it has the lowest median age. The average number of persons per family is lowest in the Vancouver and Victoria CMAs (3.1 and 2.9 respectively), as is the average number of children per family (1.2 and 1.0 respectively).





# CONCLUSION

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Urban Canada is losing ground, partly to "exurbia". The counter-urbanization movement that began in the early 1970s appears to be continuing. This development is not unique to Canada; a similar redistribution of population is occurring in other countries, both developed and developing.

Canada's population is avoiding the very large and very small urban concentrations in favour of the average-sized cities. More and more, Canadians are settling outside the census metropolitan areas; the non-metropolitan population is increasing at a faster rate than the metropolitan. Within metropolitan areas they are choosing the urban and rural fringe areas over the core. Thus the growth of the rural proportion of the population over the past decade, particularly in rural fringe areas near urban concentrations, is a Canadian demographic milestone.

Canada has taken a census of population every ten years from 1851 and every five years from 1956. The last census was taken on June 3, 1981. The census data constitute the most important single source of information on the population of Canada by many geographic areas from the national and provincial levels down to smaller groups such as cities, towns and municipalities. These data include: information on the number of people who live in Canada; their characteristics such as age, sex, marital status, language, educational level and occupation; number and types of families; and types of dwellings. Census information is used for a variety of purposes by private individuals, governments at all levels, educational institutions, business people and other organizations.

As part of a program to supplement 1981 Census statistical reports, a special series of popular studies has been undertaken on selected topics of public interest. Each study is a description of major trends and patterns. The data used are from the 1981 Census and other relevant sources. This series is designed for use at the high school and community college levels. However, it could also be of interest to the general public.

URBAN GROWTH IN CANADA is one of the reports in this series. It brings together under one cover highlights of information about changes in the patterns of urban and rural growth in Canada. Other studies in the series are being published at about the same time or within the next few months.

The manuscript for this study was prepared in the Social Statistics Field by R. Parenteau.

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